

**Appl. No. 09/766,824****PATENT  
IBM Docket No. FR919990111US1****Amendments to the Claims:**

1. (Currently Amended) A method of transmitting a loopback cell of a connection established between a source ATM device and a destination ATM device of an ATM network, said loopback cell being returned at one of at least one switching nodes located on the connection route, said loopback cell entering said switching node by an input port of an input adapter, before being switched to an output adapter as would a normal cell of said connection, and being then switched backward to said input adapter and exiting the switching node by said input port of said input adapter instead of an output port of said output adapter as would ~~[[a]] the~~ normal cell of said connection, said method comprising the steps of;

setting a loop control bit in said output adapter by a control point of said switching node if loopback is permitted in said switching node;

detecting in said output adapter whether an incoming cell includes a loopback condition, and if so

appending to said incoming cell a specific routing label indicating that the incoming cell is a cell to be returned on the connection; and

using said routing label by a protocol engine ~~[[of]] on~~ said output adapter to transmit said cell back to said input adapter, then over said ATM network from said input port of said input adapter like ~~[[a]] the~~ normal cell traveling on the connection in the opposite direction.

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2. (Currently Amended) The method according to claim 1, wherein said specific routing label is appended to said incoming cell only if ~~[[a]]~~ the loop control bit is set by ~~[[a]]~~ the control point of said switching node in said output adapter.
3. (Previously Presented) The method according to claim 2, wherein said specific routing label is an identification of said output port to indicate to the protocol engine of said output adapter that said incoming cell should be treated as a normal cell of said connection entering into said output port as if it were traveling on the connection in the opposite direction.
4. (Currently Amended) ~~The method according to claim 3, wherein~~ A method of transmitting a loopback cell of a connection established between a source ATM device and a destination ATM device of an ATM network, said loopback cell being returned at one of at least one switching nodes located on the connection route, said loopback cell entering said switching node by an input port of an input adapter, before being switched to an output adapter as would a normal cell of said connection, and being then switched backward to said input adapter and exiting the switching node by said input port of said input adapter instead of an output port of said output adapter as would the normal cell of said connection, said method comprising the steps of:  
  
detecting in said output adapter whether an incoming cell includes a loopback condition, and if so  
  
appending a loopback flag ~~is appended~~ to said incoming cell if said a loop control bit is set in order to indicate to the protocol engine of said output adapter that said identification of said output port has to be appended to said incoming cell;

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appending to said incoming cell a specific routing label indicating that the incoming cell is a cell to be returned on the connection; and

using said routing label by a protocol engine of said output adapter to transmit said cell back to said input adapter, then over said ATM network from said input port of said input adapter like a normal cell traveling on the connection in the opposite direction wherein said specific routing label is appended to said incoming cell only if the loop control bit is set by the control point of said switching node in said output adapter and said specific routing label is an identification of said output port to indicate to the protocol engine of said output adapter that said incoming cell should be treated as a normal cell of said connection entering into said output port as if it were traveling on the connection in the opposite direction.

5. (Previously Presented) The method according to claim 4, wherein said incoming cell to be looped back is transferred by said protocol engine of said output adapter to an internal port of said output adapter, said internal port being only used for incoming cells when said loopback flag is appended to said incoming cell.
6. (Previously Presented) The method according to claim 5, wherein said internal port is used as a second input port of said output adapter for receiving said incoming cell to be looped back, which cell is treated as a normal cell of the connection entering said output port in view of said identification of said output port appended thereto.

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7. (Currently Amended) A system for transmitting a loopback cell of a connection established between a source ATM device and a destination ATM device of an ATM network, said loopback cell being returned at one of at least one switching nodes located on the connection route, said loopback cell entering said switching node by an input port of an input adapter, before being switched to an output adapter as would a normal cell of said connection, and being then switched backward to said input adapter and exiting the switching node by said input port of said input adapter instead of an output port of said output adapter as would [[a]] the normal cell of said connection, said system comprising:

means in said switching node for setting a control bit in said output adapter if loopback is permitted in said switching node;

means for detecting in said output adapter whether an incoming cell includes a loopback condition;

means for appending to any incoming cell which includes said loopback condition a specific routing label indicating that the incoming cell is a cell to be returned on the connection; and

means for using said routing label by a protocol engine [[of]] on said output adapter to transmit said cell back to said input adapter, then over said ATM network from said input port of said input adapter like [[a]] the normal cell traveling on the connection in the opposite direction.

8. (Currently Amended) The system according to claim 7, wherein said specific routing label is appended to said incoming cell only if [[a]] the loop control bit is set by [[a]] the control point of said switching node in said output adapter.

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9. (Previously Presented) The system according to claim 8, wherein said specific routing label is an identification of said output port to indicate to the protocol engine of said output adapter that said incoming cell should be treated as a normal cell of said connection entering into said output port as if it were traveling on the connection in the opposite direction.
10. (Currently Amended) ~~The system according to claim 9, wherein~~ A system for transmitting a loopback cell of a connection established between a source ATM device and a destination ATM device of an ATM network, said loopback cell being returned at one of at least one switching nodes located on the connection route, said loopback cell entering said switching node by an input port of an input adapter, before being switched to an output adapter as would a normal cell of said connection, and being then switched backward to said input adapter and exiting the switching node by said input port of said input adapter instead of an output port of said output adapter as would the normal cell of said connection, said system comprising:
- means for detecting in said output adapter whether an incoming cell includes a loopback condition;
- means for appending to any incoming cell which includes said loopback condition a specific routing label indicating that the incoming cell is a cell to be returned on the connections wherein said specific routing label is appended to said incoming cell only if a loop control bit is set by a control point of said switching node in said output adapter and
- said specific routing label is an identification of said output port to indicate to the protocol engine of said output adapter that said incoming cell should be treated as a

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normal cell of said connection entering into said output port as if it were traveling on the connection in the opposite direction;

means to append a loopback flag is ~~appended~~ to said incoming cell if said loop control bit is set in order to indicate to the protocol engine of said output adapter that said identification of said output port has to be appended to said incoming cell; and

means for using said routing label by a protocol engine of said output adapter to transmit said cell back to said input adapter, then over said ATM network from said input port of said input adapter like a normal cell traveling on the connection in the opposite direction.

11. (Previously Presented) The system according to claim 10, wherein said incoming cell to be looped back is transferred by said protocol engine of said output adapter to an internal port of said output adapter, said internal port being only used for incoming cells when said loopback flag is appended to said incoming cell.
12. (Previously Presented) The system according to claim 11, wherein said internal port is used as a second input port of said output adapter for receiving said incoming cell to be looped back, which cell is treated as a normal cell of the connection entering said output port in view of said identification of said output port appended thereto.
13. (New) The system of claim 7 wherein the means in said switching node for setting the control bit includes a control point of the switching node.